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Fort A. P. Hill
Electric Distribution System Privatization
Environmental Assessment

March, 2000

Attachment to Request For Proposal
for the Privatization of the
National Capital Region
Utility Distribution and Collection Systems
Solicitation DACA31-00-R-0026

Note: This file includes text only for the Draft Environmental Assessment for the Ft. A. P. Hill Electric Distribution System Privatization. Information for Appendix A – Agency Coordination, Appendix B – General Installation Maps, and Appendix C – Electric Distribution System Maps, is provided as a separate file attachment to this Solicitation.

Prepared By:
U.S. Army Corps of Engineers
Baltimore District

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Attachment to Solicitation DACA31-00-R-0026

EXECUTIVE SUMMARY

Introduction

This Environmental Assessment (EA) examines the proposed privatization of the selected electric utility distribution (UDC) system at Fort A. P. Hill, Caroline County, Virginia, following the Department of Defense (DoD) and Department of the Army (DA) directives and guidance to military installations. DoD and DA envision that the Government will be able to divest itself of the ownership and responsibility to operate and maintain UDC systems on military installations by contracting with a non-Federal entity. The Military District of Washington (MDW) has decided to pursue this privatization initiative by grouping selected UDC systems at each of its five installations in the National Capital Region (NCR), and combining all grouped systems into one public solicitation. This effort includes privatization of the electric distribution system at Fort A. P. Hill. Initiatives to privatize the water and wastewater UDC systems at Fort A. P. Hill will be handled separately, and there is no natural gas distribution system on the installation. MDW's decision to group the NCR UDC systems for privatization is the result of preliminary market research and conditions inventories at each of the five installations. These investigations have led to the conclusion that the responsibility to own, operate, and maintain unprofitable or marginally profitable systems would not be enticing to a non-Federal entity without proper incentives. The best incentive that MDW has envisioned, maximizing the extent of privatization, is to group all types of UDC systems from a number of locations into one package that combines the more potentially profitable utility systems with the less potentially profitable systems.

Actions Analyzed

Four alternatives were considered for this project. Alternatives for the proposed action include (1) Out-source Operation and Maintenance of the Electric Distribution System at Fort A. P. Hill, (2) Privatization Restricted to the Current Alignment of the Electric Distribution System at Fort A. P. Hill, (3) Unrestricted Privatization of the Electric Distribution System at Fort A. P. Hill, and (4) the No-Action Alternative.

Alternative 1 would outsource the operation and maintenance of the existing electric distribution system. The Government would retain ownership of the real property infrastructure and would continue to be responsible for any capital improvements to the systems. Adoption of Alternative 1 would not satisfy the need to provide immediate and future capital improvements to UDC systems in poor condition, nor would it fully comply with DoD and DA policy to divest Government ownership and operation of these systems.

Alternative 2 would privatize the electric distribution system by means of fee simple transfer of current real property infrastructure to the non-Federal entity via a Bill of Sale or deed transaction. Additionally, an easement would be granted to the same entity for means of access along the current utility alignments, and a 10 to up to 50-year utility services contract would be awarded to transfer responsibility for maintenance and operation of these systems from the Government to the successful non-Federal entity. Adoption of Alternative 2 would restrict the

non-Federal entity from proposing infrastructure construction and improvement activities outside the limits of the easement granted; therefore, no new work could be conducted on lands that potentially have not already or recently been disturbed by human activities. It should be noted that adoption of Alternative 2 would allow the non-Federal entity to proceed expeditiously with infrastructure improvement activities within the limits of the easements to be granted upon contract award. However, possible monetary and operational efficiencies that could be achieved by the realignment of obsolete utility lines would not be realized. The potential benefit of initial project timesaving is not expected to outweigh these considerable opportunity costs.

Alternative 3 would privatize the electric distribution system as in Alternative 2 above, except that no restrictions would be placed on the non-Federal entity to propose infrastructure construction or improvement activities outside the limits of easements to be granted for the existing system. The non-Federal entity would be responsible to operate and maintain the electric distribution system to industry or other standards as prescribed in the utility service contract. Should the non-Federal entity propose to replace part or all of an existing system, by realignment or relocation outside of the easement to be granted at contract award, the non-Federal entity would be responsible for all associated environmental compliance, permits, installation approvals, and local regulatory requirements. The non-Federal entity must fund these associated activities and complete them prior to initiation of any physical work. Adoption of Alternative 3 would allow the most unrestricted competition among offerors, encouraging the submission of proposals with the most efficient and cost-effective infrastructure improvement plans to serve the current and expected installation utility service needs. As Alternative 3 best positions MDW and Fort A. P. Hill to be able to pursue DoD and DA UDC system privatization goals, it is designated as the preferred action alternative.

Alternative 4, the no-action alternative, is the baseline against which the proposed action was evaluated, as prescribed by Council on Environmental Quality (CEQ) regulations. The baseline established to evaluate the environmental and socioeconomic effects of the proposed action would be the conditions at Fort A. P. Hill in the absence of the proposed action. Adoption of the no-action alternative would continue the Government's present ownership and responsibilities to operate and maintain the existing electric distribution system. Maintenance and operational trends would most likely remain the same. This alternative would not satisfy the need to provide near-term capital improvements to existing systems in poor condition, nor would it comply with DoD and DA policy on obtaining cost-effective and efficient utility services. Therefore, this alternative is not preferred.

Environmental and Socioeconomic Consequences

Table ES-1 shows the expected impacts for the preferred action and no-action alternatives analyzed in detail in this EA. The following paragraphs provide additional information on expected impacts. The proposed action to privatize the ownership, operation and maintenance of the electric distribution system would not be expected to have any significant adverse effects on any environmental resources or socioeconomic conditions on this installation. Furthermore, the proposed action would not be expected to significantly change the overall mission of Fort A. P. Hill, or by itself lead to an increase, decrease, or change in the number or types of tenants on the installation.

Granting utility easements and transferring the real property infrastructure would be expected to result in minimal cumulative physical, biological or chemical effects on any resource of the installation, and on installation command or mission. The only foreseeable effects of the proposed action on these resources are secondary and short-term, specifically as a result of potential future excavation and construction activities by the non-Federal entity or its subcontractors that would be associated with repairs, upgrades or other new construction for the electric distribution system. The following segments address these potential effects.

Potential utility infrastructure improvements, including expansion, repair or upgrade of the electric distribution system, would most likely have minimal impact on air, land and water resources. These effects are not likely to be large, either singly or cumulatively. Additionally, restrictions and conditions incorporated into the easement would require special care and responsibilities for environmentally sensitive areas, mitigating any foreseeable impacts to (1) water supply and quality, (2) prime farmland soils, (3) forest conservation areas, (4) aquatic resources, (5) wetlands, (6) threatened and endangered species, and (7) cultural resources. This reduction of the impact of each part of the proposed action would reduce the overall cumulative impact of all foreseeable activities within reasonable limits. The non-Federal entity would be responsible for ensuring that future construction, maintenance, and upgrades of the utilities comply with all applicable Federal and state environmental laws and regulations.

Regulatory Requirements

Compliance with Federal environmental regulations would be required before the project analyzed in this EA could be initiated. The status of environmental compliance for the installation is summarized in Table ES-2.

Conclusions

Upon reviewing the EA and other information, implementing the preferred alternative for the proposed action addressed in this EA would not significantly alter baseline environmental or socioeconomic conditions. Because the proposed action would not have a significant effect on the quality of the human environment, no environmental impact statement will be prepared, and a Finding of No Significant Impact will be published in accordance with 40 Code of Federal Regulations (CFR) 1500 and Army Regulation (AR) 200-2.

Table ES-1. Summary of Effects of Proposed Actions and Alternatives

Resource	Proposed Action	No-Action Alternative
Land Use	No Impact.	No Impact.
Geology	No Impact.	No Impact.
Soils	No Impact.	No Impact.
Topography and Drainage	No Impact.	No Impact.
Climate	No Impact.	No Impact.
Air Quality	No Impact.	No Impact.
Water Quality	No Impact.	No Impact.
Aquatic Resources and Wetlands	No Impact.	No Impact.
Vegetation	No Impact.	No Impact.
Wildlife Resources	No Impact.	No Impact.
Threatened and Endangered Species	No Impact.	No Impact.
Prime and Unique Farmlands	No Impact.	No Impact.
Wild and Scenic Rivers	No Impact.	No Impact.
Cultural Resources	No Impact.	No Impact.
Hazardous, Toxic and Radioactive Substances	No Impact.	No Impact.
Infrastructure	No Impact.	No Impact.
Solid Waste	No Impact.	No Impact.
Transportation	Temporary, minor impacts.	No Impact.
Economics	Minor impacts.	No Impact.
Public Health and Safety	No Impact.	No Impact.
Noise	No Impact.	No Impact.
Environmental Justice	No Impact.	No Impact.

Table ES-2. Compliance with Federal Environmental Statutes and Executive Orders[a]

Acts	Compliance[b]
Anadromous Fish Conservation Act	FULL
Clean Air Act, as amended (Public Law 88-206)	FULL
Clean Water Act, as amended (Public Law 95-217)	FULL
Coastal Barrier Resources Act	FULL
Coastal Zone Management Act	FULL
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986	FULL
Endangered Species Act of 1973, as amended (Public Law 93-205)	FULL
Estuary Protection Act	FULL
Federal Water Project Recreation Act	FULL
Fish and Wildlife Coordination Act, as amended (16 United States Code [U.S.C.] 661, et seq.)	FULL
Land and Water Conservation Fund Act	FULL
Marine Mammal Protection Act	FULL
Magnuson Fishery Conservation and Management Act, as amended (Public Law 94-265)	FULL
National Environmental Policy Act of 1969 (Public Law 91-190)	Ongoing
National Historic Preservation Act of 1966, as amended (Public Law 89-665)	Ongoing
Noise Control Act of 1972, as amended	FULL
Resource Conservation and Recovery Act (Public Law 94-580)	FULL
Rivers and Harbors Act	FULL
Safe Drinking Water Act, as amended (Public Law 93-523)	FULL
Solid Waste Disposal Act of 1965, as amended	FULL
Toxic Substances Control Act of 1976 (Public Law 94-469)	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. 1101, et seq.)	FULL
Wetlands Conservation Act (Public Law 101-233)	Ongoing
Wild and Scenic Rivers Act	FULL

[a] Applies to all alternatives.

[b] Ongoing--Some requirements of the regulation remain to be met before implementing some activities. Full compliance is expected.

Table ES-2, continued
Compliance with Federal Environmental Statutes and Executive Orders[a]

Executive Orders	
Flood Plain Management (Executive Order 11988)	FULL
Protection of Wetlands (Executive Order 11990)	Ongoing
Federal Compliance with Pollution Standards (Executive Order 12088)	FULL
Environmental Justice in Minority Populations and Low-Income Populations (Executive Order 12898)	FULL
Invasive Species (Executive Order 13112)	FULL

[a]Applies to all alternatives.

[b]Ongoing--Some requirements of the regulation remain to be met before implementing some activities. Full compliance is expected.

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1.0 PURPOSE, NEED AND SCOPE

1.1 Background

The great majority of the nation's military installations contain Government owned, operated and maintained utility distribution and collection (UDC) systems. In many instances, funding for maintenance and operation of UDC systems has not kept pace with the functional needs of these systems, especially those that have exceeded or are now approaching the end of their expected useful life. Privatization of the UDC systems on military installations entails the transfer of infrastructure ownership, operation, maintenance, repair and replacement responsibilities from the Government to a private or public sector utility services provider. Privatization of the UDC systems is envisioned as the means for the military services to obtain the most efficient and effective delivery of utility services to standards applicable and prescribed for systems in the private sector. Privatization of UDC systems would allow the military services to redirect specific manpower resources to meet the critical needs of its core war fighting, training, support, and readiness missions.

Congressional legislation and subsequent Department of Defense (DoD) Defense Reform Initiatives Directives (DRIDs) and Department of the Army (DA) implementation policies directed that military installations pursue privatization of all their UDC systems. Enacted in November 1997, the National Defense Authorization Act for Fiscal Year 1998 (10 U.S.C. 2688) provided authority to the Secretary of a military department to convey a utility system, or part of a utility system, under the jurisdiction of the Secretary, to a municipal, private, regional, district, or cooperative utility company or other entity. The conveyance may consist of all right, title and interest of the United States in the utility system or such lesser estate, as the Secretary considers appropriate, to serve the interests of the United States. DoD issued Defense Reform Initiative Directive (DRID) #9, Privatizing Utility Systems, on 10 December 1997. DRID #9 directed the military services to develop plans to privatize all applicable UDC systems by 1 January 2000. In subsequent DRID #49, issued on 23 December 1998, DoD relaxed the privatization deadline to 2003 for the great majority of military installations where privatization efforts had not yet been undertaken. Exceptions were strictly limited to those cases where a particular UDC system must be maintained for unique national security reasons or where privatization of a particular UDC system is ultimately determined to be uneconomical.

Following DA policy for implementing these DRIDs, the U.S. Army Military District of Washington (MDW) is seeking to privatize thirteen (13) selected UDC systems at its five (5) installations in the National Capital Region (NCR) by the end of September 2000. MDW's five installations in the NCR are Fort Lesley J. McNair, located in Washington, D. C.; Fort George G. Meade, located in Maryland; and Fort Myer, Fort Belvoir, and Fort A.P. Hill, all located in Virginia.

This Environmental Assessment (EA) was prepared to address the environmental and socio-economic impacts of the proposed action to privatize the electric distribution system at Fort A.P. Hill. Fort A. P. Hill is located in Caroline County, Virginia, and comprises approximately 76,000 acres. U.S. Highway 301 bisects the installation, and the city of Bowling Green lies two miles south of the installation boundary. A map, depicting the general location of Fort A. P. Hill, is

provided at Appendix B, Figure 1: Location of Fort A.P. Hill. A more specific, larger scale map of the installation is provided at Appendix B, Figure 2: Installation Map. Initiatives to privatize the water and wastewater utility distribution and collection systems at Fort A.P. Hill will be handled separately, and there is no natural gas distribution system on the installation

1.2 Purpose of and Need for the Proposed Action

The purpose of the proposed action is to transfer infrastructure ownership from the Federal Government to a non-Federal entity to renovate, repair or replace the electric distribution system within the installation boundaries of Fort A.P. Hill, and to transfer the responsibility to operate and maintain this system to prescribed industry standards common in the private sector. The physical condition of one or multiple segments of the electric distribution system at Fort A.P. Hill is such that certain parts of the systems are approaching or may have exceeded their expected useful life. Funding for maintenance, repair and upgrade of the electric distribution system provided by DA over the years has generally not kept pace with the need for adequately maintaining the infrastructure integrity and reliability of this system.

MDW and Fort A. P. Hill seek to implement the proposed action by means of best value competitive award of a contract to a successful, non-Federal offeror. The utility service contract, issued in accordance with the current Federal Acquisition Regulation (FAR) statute and recent Congressional legislation for a period of up to fifty (50) years, would prescribe the performance standards for the operation, repair, maintenance and replacement of the electric distribution system. Additionally, in conjunction with the award of this contract, two real estate contracts would complete the privatization of the electric distribution system. The ownership of the systems' infrastructure would be transferred in full by deed or bill of sale to the successful offeror. To allow the successful offeror access to the infrastructure to accomplish work under the service contract, the Federal Government would grant easements to the land immediately surrounding the existing electric distribution system.

MDW, as the major Army command ultimately responsible for overseeing all activities at its Fort A.P. Hill installation, has decided that the best means for implementing DoD and DA privatization policy is to consolidate privatization actions for 13 selected UDC systems at its five NCR installations. As described, for Fort A.P. Hill, the electric distribution system is included in this UDC system grouping as part of the overall MDW privatization initiative. MDW has determined that grouping the selected UDC systems by installation would be the most effective way (1) to support the proposed action and (2) to comply with the DoD directives and DA guidance to privatize all UDC systems to the extent economical and non-injurious to the national defense. MDW determined that one or more of its UDC systems at various installations, if pursued separately for privatization, might not be viable for takeover by prospective offerors given the specifics of present condition and routing, and potential for profitably serving its customer base. By grouping selected UDC systems at its NCR installations into one privatization initiative, those utility systems with greater potential profitability would be combined with those systems envisioned as having lesser potential profitability. MDW seeks to cultivate an apparent, growing competitive interest in the non-Federal sector for not only this potential business opportunity on its five NCR installations, but also for more than 1000 potentially applicable UDC systems DoD-wide.

1.3 Scope of Analysis

This EA was developed in accordance with the National Environmental Policy Act (NEPA), implementing regulations issued by the Council on Environmental Quality (CEQ), and Army Regulation (AR) 200-2, *Environmental Effects of Army Actions*. Its purpose is to inform decision-makers and the public of the likely environmental and socioeconomic consequences of the proposed action and alternatives.

The EA identifies, documents and evaluates the potential environmental and socioeconomic effects associated with the proposed action to implement DoD and Army privatization policy at Fort A.P. Hill. Section 2.0 describes the proposed action. Section 3.0 sets forth alternatives to the proposed action, including a no-action alternative, and explains why certain alternatives will not be evaluated in detail. Section 4.0 describes the existing environmental conditions at Fort A.P. Hill that fall within the scope of this EA. Section 5.0 describes the environmental and socio-economic consequences envisioned by adoption of either the proposed action or the no-action alternative. Section 6.0 presents the conclusions and findings.

An interdisciplinary team of environmental scientists, biologists, ecologists, planners, economists, engineers, historians, and military technicians has reviewed the proposed action and the alternatives in light of existing conditions and has identified relevant beneficial and adverse effects associated with the action. The EA focuses on effects likely to occur within the area of proposed action (i.e., the installation boundaries). The document analyzes direct effects (those resulting from the proposed action and occurring at the same time and place) and indirect effects (those resulting from the proposed action and occurring later in time or those farther removed in distance, but still reasonably foreseeable). The potential for cumulative effects is also addressed, and mitigation measures are identified where appropriate.

1.4 Public Involvement

MDW invites public participation throughout the NEPA process. Consideration of the views and information of all interested persons promotes open communications and enables better decision-making. All persons and organizations having a potential interest in the proposed action are urged to participate in the decision making process. Participation by agencies, organizations, or members of the public is invited throughout the NEPA process.

Public participation opportunities with respect to the proposed action evaluated in this EA are guided by AR 200-2, *Environmental Effects of Army Actions*. Upon final review and concurrence with this environmental assessment's findings that the proposed action would not result in significant environmental effects, Fort A.P. Hill would issue a Finding of No Significant Impact (FNSI). The public and concerned organizations would be informed of the FNSI and the availability of the EA by the publishing of a Notice of Availability in local newspapers. For a period of thirty (30) days, starting with the day that the NOA is advertised, concerned organizations and the public would be encouraged to submit comments on the proposed action, the EA, and the FNSI. Work on the proposed action will not commence until this timeframe is observed and any resulting issues resolved. At any point in the process, the public may obtain information on the status and progress of the proposed action and the EA by contacting the U.S. Army Corps of Engineers, Baltimore District, Planning Division point of contact Mr. David Hand, telephone (410) 962-8154.

1.5 Framework for Analysis

A decision on whether to proceed with the proposed action rests on numerous factors, such as (1) the Army's changing mission requirements, (2) the receipt, evaluation, and acceptance of qualified proposals by prospective non-Federal offerors and ultimately the award of a contract(s) to a successful offeror(s), (3) availability of Army funding, (4) determination of economic viability, and (5) environmental considerations. In addressing environmental considerations, MDW and Fort A.P. Hill are guided by several relevant statutes and regulations, and by Executive Orders that establish standards and provide guidance on environmental and natural resource management and planning. These include the Clean Air Act, Clean Water Act, Endangered Species Act, Farmland Protection Policy Act, National Historic Preservation Act, Resource Conservation and Recovery Act, Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), Executive Order 12088 (Federal Compliance with Pollution Control Standards), Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), and Executive Order 13045 (Protection of Children from Environmental Health Risks and Safety Risks). Where useful to better understanding, key provisions of these statutes and Executive Orders are described in more detail in the text of the EA. Table 1-1, provided below, summarizes the installation's current compliance status with these environmental statutes and Executive Orders.

Table 1-1. Compliance with Federal Environmental Statutes and Executive Orders[a]

Acts	Compliance[b]
Anadromous Fish Conservation Act	FULL
Clean Air Act, as amended (Public Law 88-206)	FULL
Clean Water Act, as amended (Public Law 95-217)	FULL
Coastal Barrier Resources Act	FULL
Coastal Zone Management Act	FULL
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986	FULL
Endangered Species Act of 1973, as amended (Public Law 93-205)	FULL
Estuary Protection Act	FULL
Federal Water Project Recreation Act	FULL
Fish and Wildlife Coordination Act, as amended (16 United States Code [U.S.C.] 661, et seq.)	FULL
Land and Water Conservation Fund Act	FULL
Marine Mammal Protection Act	FULL
Magnuson Fishery Conservation and Management Act, as amended (Public Law 94-265)	FULL
National Environmental Policy Act of 1969 (Public Law 91-190)	Ongoing
National Historic Preservation Act of 1966, as amended (Public Law 89-665)	Ongoing
Noise Control Act of 1972, as amended	FULL
Resource Conservation and Recovery Act (Public Law 94-580)	FULL
Rivers and Harbors Act	FULL
Safe Drinking Water Act, as amended (Public Law 93-523)	FULL
Solid Waste Disposal Act of 1965, as amended	FULL
Toxic Substances Control Act of 1976 (Public Law 94-469)	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. 1101, et seq.)	FULL
Wetlands Conservation Act (Public Law 101-233)	Ongoing
Wild and Scenic Rivers Act	FULL

[a] Applies to all alternatives.

[b] Ongoing--Some requirements of the regulation remain to be met before implementing some activities. Full compliance is expected.

Table ES-2, continued
Compliance with Federal Environmental Statutes and Executive Orders[a]

Executive Orders	
Flood Plain Management (Executive Order 11988)	FULL
Protection of Wetlands (Executive Order 11990)	Ongoing
Federal Compliance with Pollution Standards (Executive Order 12088)	FULL
Environmental Justice in Minority Populations and Low-Income Populations (Executive Order 12898)	FULL
Invasive Species (Executive Order 13112)	FULL

[a]Applies to all alternatives.

[b]Ongoing--Some requirements of the regulation remain to be met before implementing some activities. Full compliance is expected.

2.0 PROPOSED ACTION

MDW and Fort A. P. Hill propose to implement DoD and DA directives and policy to privatize the electric distribution system at Fort A. P. Hill. Privatization would be carried out through two steps, a real estate transaction and a service contract. The real property assets associated with the electric distribution system infrastructure would be transferred to a non-Federal entity through a bill of sale or deed and access to the land on which the real property is situated would be granted to the same non-Federal entity by a perpetual easement. Additionally, a 10 to up to 50-year utility service contract would be awarded in accordance with the current FAR and recent Congressional legislation. MDW and Fort A. P. Hill seek a qualified non-Federal entity, regulated or unregulated, to own, operate, and maintain the electric distribution system at Fort A. P. Hill. MDW and Fort A. P. Hill have arranged with the Baltimore District, U.S. Army Corps of Engineers, to be the contracting agent for implementing the proposed action.

Implementation of the proposed action would represent the Government's preferred alternative for privatization of its electric distribution system at Fort A.P. Hill. Other alternatives are presented in Section 3.0.

This EA was prepared to describe the environmental and socioeconomic impacts of privatizing the existing electric distribution system at Fort A. P. Hill. The relevant, current environmental conditions of the real property that would be transferred and the land associated with the known easement areas that would be conveyed are discussed herein. Upon contract award, it would become the responsibility of the non-Federal entity to initiate action to bring the existing system into compliance with the general and specific industry performance standards that would be identified in the contract. Importantly, the non-Federal entity would be permitted to propose replacement of all or parts of the existing system or the installation of new or extended utility services that could be run in alignments outside the easement limits issued at time of contract award. A very general discussion of the potential impacts of such proposals is included in this EA as part of the Cumulative Impacts in Section 5.10. It would be incumbent, however, on the non-Federal entity to perform or obtain, at their expense, any necessary studies, assessments and documentation and approvals required prior to performing work outside the areas covered in this EA. This would include executing activities to comply with NEPA, and other federal, state and local government laws, codes and regulations, including permits. Clauses, conditions and restrictions in the real estate documents and the utility service contract would be included to assure that the non-Federal entity is responsible.

3.0 ALTERNATIVES

The Government has identified three alternatives for its proposed action, as well as the no-action alternative. These alternatives are discussed below.

3.1 Out-Source Operation and Maintenance of the Electric Distribution System at Fort A. P. Hill

Under this alternative, the Government would out-source only the functions of operation and maintenance of the electric distribution system. The Government would retain ownership of the system infrastructure.

Since no asset ownership would be transferred, no financial leverage or other investment incentive is included in this alternative. The out-source contractor could not and would not be required to provide the necessary, near-term and long- term, major capital improvements to that part of the electric distribution system infrastructure that may be in poor condition or in need of total replacement. This alternative would maintain the process of annual budget requests from the installation to the MACOM, DA and Congress for needed physical improvements. This status quo situation has proven to be unsuccessful consistently in the past and detrimental to the viability of the utility systems. Congress, by enacting the legislation to authorize the Secretary of a Military Department to privatize all utility systems, has recognized this problem. Additionally, adoption of this alternative would not comply with the DoD and Army directives to divest Government ownership of UDC systems. It does not privatize the systems. For these reasons, this alternative is does not fully comply with the purpose and need criteria for the proposed action and, as a result, will not be addressed further.

3.2 Privatization Restricted to the Current Alignments of the Electric Distribution System at Fort A. P. Hill

Under this alternative, the Government would implement privatization of the electric distribution system described under the proposed action, but would restrict the non-Federal entity to effect repair, rehabilitation, replacement or other infrastructure improvements to the existing system as currently aligned and within the easements to be issued upon contract award.

The Government has determined that adoption of this alternative would unduly restrict potential offerors from proposing what they determined to be the most efficient and economic means to improve existing infrastructure. Offerors would be precluded from proposing relocated or new routes for the electric distribution system outside the limits of easements to be granted based on current system alignments. MDW and Fort A. P. Hill believe that, given the opportunity, offerors would consider proposing new or relocated systems alignments, especially for any parts of the system considered to be in need of total or major replacement. One goal of the privatization process is to maximize infrastructure upgrades or other improvements as part of achieving efficient, safe reliable utility service to installation customers at the lowest cost. Most importantly, proposals to conduct work outside the existing utility routes would be considered under the proposed action, a newly proposed action that would required its own process to comply with NEPA and other environmental laws and regulations. Safeguards, in the form of

contract clauses and easement conditions and restrictions, requiring the privatization entity to be responsible for this compliance work would be placed in the appropriate proposed action documentation. For these reasons, this alternative is not reasonable at this time and not ripe for examination further in this EA.

3.3 Unrestricted Privatization of the Electric Distribution System at Fort A. P. Hill

Implementation of the proposed action, as described in Section 2.0, would represent the Government's preferred alternative for privatizing the electric distribution system under Government control at Fort A. P. Hill. Accordingly, the environmental and socioeconomic consequences of the preferred alternative are evaluated in detail in Section 4.0 of this document.

3.4 The No-Action Alternative

This document refers to the continuation of existing conditions of the affected environment, without implementation of the proposed action, as the no-action alternative. The Council on Environmental Quality requires inclusion of the no-action alternative. The no-action alternative serves as the baseline against which the proposed action and alternatives can be evaluated.

Under the no-action alternative, the Government would retain ownership of the electric distribution system at Fort A. P. Hill and would continue to be responsible for operating and maintaining those systems with its Directorate of Public Works (DPW) workforce. Maintenance and operational practices would most likely remain the same. Fort A. P. Hill would continue to obtain funding for the management of the electric distribution system through the congressional authorization and appropriations process. Any major changes to or construction of utility improvements would require that appropriate NEPA analyses are completed prior to implementing such actions.

Selecting the no-action alternative would not satisfy the need to provide immediate capital improvements to those existing systems or portions of systems in poor condition. Furthermore, it would not comply with DoD directives and Army policy to privatize UDC systems. Therefore, the no-action alternative is not preferred.

4.0 AFFECTED ENVIRONMENT

4.1 Project Area Description

4.1.1 Land Use

The land use at the installation can be classified into three groups: improved grounds, semi-improved grounds, and unimproved grounds (Table 4-1). Improved grounds comprise approximately 815 acres or 1 percent of the total acreage of Ft. A.P. Hill and include such areas as athletic fields, lawns, drillfields, grassed airfields, and heliports. Semi-improved grounds comprise approximately 4,830 acres or 6 percent of the total acreage. This includes mowed ranges, managed ponds, ammunition supply and airfield clearance zones. Unimproved grounds are the predominant land cover that comprises approximately 70,300 acres or 93 percent of the total acreage and include maneuver/artillery ranges, beaver ponds, active impact areas, and forested areas. Of the unimproved grounds forested areas are by far the largest land use category at the installation with approximately 57,359 acres or 75 percent of the total acreage at Ft. A.P. Hill (EA for the Continuation of Basewide Operations, 1999).

Table 4-1: Land Use at Ft. A.P. Hill

CLASSIFICATION	ACREAGE	PERCENT TOTAL
IMPROVED GROUNDS *	815	1.1%
SEMI-IMPROVED GROUNDS		
Mowed Ranges	802	1.1%
Drop Zone	238	0.3%
Mowed Road Shoulder	1,499	2.0%
Managed Ponds	262	0.3%
Managed Open Areas	2,029	2.7%
Subtotal	4,830	6.4%
UNIMPROVED GROUNDS		
Beaver Ponds	329	0.4%
Active Impact Areas	8,477	11.1%
Gravel Pit	139	0.2%
Streams and Wetlands	2,255	3.0%
Undeveloped Portion of Drop Zone	395	0.5%
Roads/Trails/Firebreaks	879	1.2%
Forested Areas	57,359	75.5%
Outgrants	465	0.6%
Subtotal	70,298	92.5%
TOTALS	75,943	100%

* Includes athletic fields, lawns, drillfields, built-up areas, grassed airfields and heliports.
SOURCE: EA for the Continuation of Basewide Operations, 1999.

4.1.2 Geology

Ft. A.P. Hill is underlain by 400 to 600 feet of unconsolidated sediments that are, in turn, underlain by crystalline basement rocks. Beginning with the basement rock and moving upward toward the surface, geologic formations underlying Ft. A.P. Hill are the following: Patuxent Formation (early Cretaceous); "Transitional Beds" (mid-Cretaceous); Mattaponi Formation (Cretaceous-Tertiary); Calvert Formation (Tertiary); and Yorktown Formation (Miocene) (Teitke, 1973 as quoted in Meng, 1984). Generally, the geologic column consists of fine sediments, except for the upper unit, the Yorktown Formation, and the deeper formations (i.e., the Patuxent Formation) which are primarily silty sands (EA for the Continuation of Basewide Operations, 1999).

The presence of the Yorktown Formation as the uppermost formation in the geologic column represents a reinterpretation of geology at Ft. A.P. Hill, when compared with previous reports. Geology descriptions in previous EAs have defined the uppermost geologic unit as undifferentiated Columbia Group sediments. As a result of a Congressionally mandated study of regional aquifers, the U.S. Geological Survey (USGS) delineated the western boundary of the Columbia Aquifer in a position 30 miles east of Ft. A.P. Hill; consequently, Columbia Group sediments are not believed to be present at Ft. A.P. Hill. The Yorktown Formation, which had been omitted from previous geologic columns, has now been inserted at the top of the column (EA for the Continuation of Basewide Operations, 1999).

4.1.3 Soils

The Soil Conservation Service (SCS) recently completed a field survey and mapping of the soils at Ft. A.P. Hill. The field survey covered approximately 60,000 acres of the installation, including 10,000 acres of the 27,000-acre Range Area.

Until the SCS soil report and map are available, Ft. A.P. Hill soils can be described only in general terms using available information. This information (Versar, 1989) groups site soils into four categories: upland soils, valley slope soils, floodplain soils, and Rappahannock River terrace soils.

The upland soils are mostly well-drained sandy soils, which occur on gently rolling uplands having one to four percent slopes. These soils develop on the sandy, clayey, and loamy Coastal Plain sediments. They have high permeability, and are subject to high erosion when cleared of vegetation. Major soil types include Sassafras, Kempsville, Caroline, and Rumford.

The valley slope soils are thick, moderately to well-drained loamy, gravelly sand and clay soils that occur on rolling to steep terrain along drainages having slopes of 8 to 15 percent. These soils develop on the loamy alluvium and stratified loamy and clayey Coastal Plain sediments. They have low permeability and high shrink-swell potential. Major soil types are Caroline and Altavista.

The floodplain soils are deep, poorly drained sandy clay and silt that occur in nearly level areas along drainages. These soils are derived from materials washed down from silty and sandy uplands. They are characterized by a high water table and frequent flooding, and have severe

limitations for development. Major soil types are Bibb Complex, Ochlockonee, and mixed alluvium.

The Rappahannock River terrace soils are only found in the northeastern portion of the installation, in areas with slopes of 0 to 2 percent. These soils are deep, well-to poorly drained clay loam deposits located on broad and nearly level areas. In low areas these soils have a high water table. They have severe limitations for development. Major soils types are Augusta, Altavista, Roanoke, and Wickham (EA for the Continuation of Basewide Operations, 1999).

4.1.4 Topography and Drainage

The Commonwealth of Virginia is divided into five major physiographic provinces, from west to east: Cumberland Plateau, consisting of sub-horizontal Paleozoic rocks; Valley and Ridge Province, a series of fault blocks consisting of Paleozoic sedimentary rocks; Blue Ridge Province, consisting of a complex sequence of Cambrian and Precambrian sedimentary rocks and Precambrian igneous and metamorphic rocks; Piedmont, consisting of older Precambrian gneisses, schists, and granite; and Coastal Plain, consisting of a wedge of generally unconsolidated sediments which dip and thicken to the east.

Ft. A.P. Hill is located 10-15 miles east of the Fall Line, between the Coastal Plain and the Piedmont physiographic provinces, and has features of both provinces. The terrain at the installation is characterized by level to moderately rolling plains dissected by small streams. Elevations on the installation range from 10 feet above mean sea level (msl) in the east at Millers Pond to 225 feet above msl northwest of the Drop Zone near the western boundary of the installation. In the more level areas in the southern portion of the installation, slopes generally are between 0 and 8 percent, with interstream areas being 20 to 60 feet higher than the stream bottoms. In the moderately rolling plains, slopes generally are between 8 and 30 percent, although slopes as great as 50 percent occur in steeper valleys, where interstream areas are 30 to 150 feet above the stream bottoms. The steeper slopes and incised stream valleys occur within the central portion of the installation (EA for the Continuation of Basewide Operations, 1999).

4.1.5 Climate

The climate at Ft. A.P. Hill is modified continental, with warm, humid summers and mild winters. Mean annual temperature ranges from a monthly maximum of 76.8° F in July to a monthly minimum of 37.2° F in January. Annual prevailing winds are from the south and south-southeast, except during the winter when a northwesterly wind prevails. The average annual precipitation of 40.1 inches is fairly evenly distributed throughout the year, with most falling as rain (NOAA, 1990). Thunderstorms can occur at any time of the year, but are most frequent during late spring and summer. Tropical storms and hurricanes can occur in the area. Atmospheric thermal inversions occur at any time of the year, but are most frequent and intense during the mornings and in late summer and early autumn (EA for the Continuation of Basewide Operations, 1999).

4.2 Air Quality

The Virginia Department of Air Pollution and Control (DAPC) does not maintain air quality monitoring stations in Caroline County. The air quality monitoring stations closest to Ft. A.P. Hill are particulate matter (PM_{10}) in Fredericksburg; carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen oxides (NO_x) in Richmond; ozone (O_3) in Hanover; and, lead (Pb) in the Tidewater area and in northern Virginia. Sources of air emissions at Ft. A.P. Hill are oil-fired boilers, fuel storage tanks, open detonation of explosives, controlled open burning of grasslands, mobile sources (military vehicles and aircraft), and solvent cleaning. With the exception of controlled open burning, the emissions from these sources are below the significant level. The region is classified by the DAPC as attainment, or nondesignated, for all criteria pollutants (EA for the Continuation of Basewide Operations, 1999).

4.3 Water Quality

The Rappahannock River in the Ft. A.P. Hill area is classified by the Virginia State Water Control Board as Class II estuarine waters, and its tributaries as Class III non-tidal waters. The Mattaponi River and its tributaries in the Ft. A.P. Hill area are classified as Class III waters (Virginia Water Quality Standards, VR 680-21-00). Little information is available on surface water quality at Ft. A.P. Hill. There currently is no comprehensive surface water monitoring program in place for the installation. The streams are not monitored for water quality, but more extensive water quality testing is performed at the lakes and ponds when they are stocked with fish, and before and during the National Boy Scout Jamboree. The Department of the Interior, Fish and Wildlife Service (USFWS) performed limited water quality testing of the Rappahannock River drainages on post in 1992 (EA for the Continuation of Basewide Operations, 1999; Draft 1999 Dames and Moore EA).

4.3.1 Surface Water

Ft. A.P. Hill is located within the drainage basin of two rivers: the Rappahannock River and the Mattaponi River. The northern and eastern 75 percent of the installation is within the drainage basin of the Rappahannock River, which drains to the Chesapeake Bay; the southern and western 25 percent of the installation is within the drainage basin of the Mattaponi River, a tributary of the York River, which also drains to the Chesapeake Bay.

The U.S. Geological Survey (USGS) operates a gaging station on the Mattaponi River, approximately 0.1 mile upstream from the bridge of State Highway 605, northwest of Bowling Green. During the 1989 water year (1 October 1988 to 30 September 1989), a maximum discharge of 2,240 ft^3/sec was recorded on 8 May 1989 while a minimum discharge of 2.8 ft^3/sec was recorded on 2 October 1988. A total of 7.4 billion gallons of water flowed past the gaging during the 1989 water year. The Rappahannock River does not have a gage near Ft. A.P. Hill.

There are 12 principal stream systems at Ft. A.P. Hill, all of which originate on the installation, and many of which are small headwater streams; none of the streams are gaged. Stream widths vary from 3 to 10 feet in the smaller streams, and from 7 to 16 feet in the larger streams. Stream banks and bottoms are mostly clay or sandy clay. Organic matter and gravel occur in some

sections of the streams. Stream gradient generally are less than 0.5 percent (EA for the Continuation of Basewide Operations, 1999).

4.3.2 Groundwater

Two major aquifers occur in the Ft. A.P. Hill area: the water table aquifer and the deep aquifer. The two aquifers are separated by a thick sequence of fine, relatively impermeable sediments, although conductive zones may occur in the intervening sediments.

The water table aquifer occurs in the silty, fine-grained sands of the Miocene terrace deposits in upland plains, and in the recent alluvium in the low stream valleys. The aquifer ranges in thickness from 0 to 115 feet, and has an average thickness of about 50 feet. The potentiometric surface mirrors the topography. Groundwater in the shallow aquifer generally flows in the same direction as surface water, with the northern and eastern portion of the installation flowing northeast toward the Rappahannock River, and the southern and western portion flowing southwest toward the Mattaponi River. Within the installation, the shallow groundwater flow probably trends toward stream channels and other low areas. Recharge to the water table aquifer is from rainfall and stream infiltration. The water table aquifer is capable of providing small quantities of fresh water. Ft. A.P. Hill had installed three water supply wells in the water table aquifer. These wells have reported yields of 1.5, 1.5, and 14 gallons per minute (gpm). Two of these wells have either been abandoned or destroyed.

The deep aquifer consists of the unconsolidated sands and gravels of the Patuxent Formation of the Lower Cretaceous era. Wells installed on post in this aquifer range in depth from 182 feet to 702 feet. The deep aquifer dips gently to the southeast, increasing gradually in thickness and depth. Groundwater in the deep aquifer flows toward the east. Recharge to the aquifer occurs west of the installation, near the Fall Line where the Cretaceous sediments outcrop at the surface. Water levels recorded by the USGS since 1971 in a well in the old ASP area show less than one foot of seasonal fluctuation. The deep aquifer is capable of yielding moderate to large quantities of fresh water (between 10 and 100 gpm).

Ft. A.P. Hill has installed 43 water supply wells in the deep aquifer. These wells have a range of reported yield from 2 gpm to 372 gpm. Of the 43 wells initially installed, 15 are designated for primary use, with eight designated as backups. The remaining wells are either abandoned or not in use. During 1991, approximately 40 million gallons of water were pumped from the ground at Ft. A.P. Hill (EA for the Continuation of Basewide Operations, 1999).

4.4 Aquatic Resources and Wetlands

4.4.1 Aquatic Resources

The aquatic systems at Ft. A.P. Hill are warm freshwater systems. Principal fish species are largemouth bass, bluegill, golden shiner, various sunfish, white crappie, black crappie, warmouth, chain pickerel, flier, channel catfish, white sucker, yellow and brown bullhead, and northern pike. River herring are reported to run in Mill Creek below Millers Pond. Striped bass are reported to occur in Rappahannock River tributaries.

Many of the installation's lakes and ponds have been regularly surveyed over the past two years. Limited surveys are performed within the lakes and ponds as part of the management of the lake recreational fisheries. The USFWS initiated limited stream surveys of Rappahannock River drainages on post in 1991. These surveys addressed vertebrate and invertebrate species (EA for the Continuation of Basewide Operations, 1999).

4.4.2 Wetlands

Nontidal freshwater wetlands occur throughout Ft. A.P. Hill, principally along the lowlands of the stream valleys. Wetland types include emergent wetlands dominated by mixed sedges (*Carex spp.),* rushes (*Juncus spp*., *Scirpus spp*.), arrowhead (*Saggitaria spp.*), and other herbaceous species; forested wetlands of black willow (*Salix nigra*), river birch (*Betula nigra*), cottonwood (*Populus deltoides*), basswood (*Tilia americana*), swamp chestnut oak (*Quercus michauxii*), sycamore (*Platanus occidentalus*), yellow poplar (*Liriodendron tulipfera*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*); and, shrub-scrub wetlands of young tree species and alders (*Alnus serrulata*). Wetlands on the installation are influenced by beaver activity (EA for the Continuation of Basewide Operations, 1999).The USFWS has completed mapping of the installation as part of the National Wetland Inventory (NWI). The NWI was conducted primarily through the interpretation of high-altitude aerial photography. Due to accuracy limitations in the NWI interpretation process, the NWI mapping is considered preliminary, but serves as a valuable planing and evaluation tool. The NWI mapping indicates that there are approximately 4,100 acres of wetlands at Ft. A.P. Hill which represent approximately six percent of the installation's total land area. The wetlands are widespread but are largely limited to the narrow stream valleys of the installation (EA for the Continuation of Basewide Operations, 1999).

4.5 Vegetation

Approximately 80 percent of Ft. A.P. Hill is forested. Two natural forest types are present on the installation: mixed oak (*Quercus, spp.*) and loblolly pine-short leaf pine *(Pinus spp.*). The mixed oak forest is a climax forest dominated by white oak (*Q. alba*), black oak (*Q. velutina*), and red oaks (*Q. rubra, Q. falcata*), and may include other oaks, includingscarlet (*Q. coccinea*), chinkapin oak (*Q. muehlenbergii*), post oak (*Q. stellata*), blackjack oak (*Q. marilandica*), and chestnut oak (*Q. prinus*), yellow poplar (*Liriodendron tulipfera*), black gum (*Nyssa sylvatica*), sweetgum (*Liquidambar styraciflua*), hickories (*Carya spp.*), beech (*Fagus grandifolia*), red maple (*Acer rubrum*), ashes (*Fraxinus spp.*) and elms (*Ulmus spp.*). In moist locations, species other than oaks dominate. Understory species in the mixed oak forest include dogwood (*Cornus florida*), sassafras (*Sassafras albidum*), redbud (*Cercis canadensis*), viburnum (*Viburnum spp.*), mountain laurel (*Kalmia latifolia*), rhododendron (*Rhododendron maximum*), holly (*Ilex opaca*), and various woody vines. The loblolly pine (*Pinus taeda*)-short leaf pine (*P. escinata*) forest, which includes Virginia pine (*P. virginiana*), occurs in upland areas, and may include hardwood species such as sweetgum, black gum, oaks, hickories, on drier locations and yellow poplar and ashes on moister locations. The understory in the loblolly pine-short leaf pine forest is often sparse, and may include various woody vines, persimmon, blueberry, and sapling hardwood trees. Without management or fire, this forest type is succeeded by the mixed oak forest.

Forest management have recently moved to more uneven aged stand practices at Ft. A.P. Hill. The most recent timber inventory was completed in 1983. At that time, approximately half of the installation's forest was in pine and half in hardwoods, and the following volumes were estimated.

	MBF*	Cords
Pine	194.3	179,769
Yellow Poplar	141.8	31,745
Miscellaneous Hardwoods	257.6	145,171

* MBF: Million Board Foot

Approximately six percent of the installation is grass covered. This includes several large areas (e.g., the Drop Zone and the Range Impact Areas), as well as smaller areas scattered throughout the installation. Species present include fescue, bluegrass, bluestem, red top, rye, oats, foxtail, crowsfoot, crabgrass, broomsedge, quackgrass, Johnson grass, and orchard grass (EA for the Continuation of Basewide Operations, 1999).

4.5 Wildlife Resources

The wildlife at Ft. A.P. Hill consist of species typical of both the Piedmont and Coastal Plain physiographic provinces. Common mammal species are listed in Table 4-2. Common bird species observed at the installation include Red-tailed hawk (*Buteo jamaicensis*), Great-horned owl *(Bubo virginianus)*, Screech owl *(Otus asio*), Whip-poor-will *(Caprimulgus Vociferous)*, and American goldfinch *(Cardeulis tristis).* All of these species would be expected to be primarily present in upland areas. Common species that are encountered in wetlands and open water areas include: wood duck *(Aix sponsa*), mallard *(Anas platyrhynchos*), great blue heron *(Ardea herodias*), red-winged blackbird *(Angelaius phoeniceus*), green-backed heron *(Butorides striatus*), belted kingfisher *(Ceryle alcyon*) and prothonotary warbler *(Protonotaria citrea).* Electro-shocking surveys at Ft. A.P. Hill have identified a total of 36 species of fish that inhabit the installation's streams, lakes and ponds. Approximately 50 species of reptile and amphibian species are also expected to occur at Ft. A.P. Hill. According to a study performed under the DoD, Legacy Resource Management Program, by the University of Richmond, it was determined that the frog fauna of Ft. A.P. Hill is healthy (EA for the Continuation of Basewide Operations, 1999).

Table 4-2: Common Mammals	
MAMMALS	
Common Name	Scientific Name
White-tail deer	*Odocoileus virginianus*
Opossum	*Didelphis virginiana*
Southern flying squirrel	*Glaucomys volans*
Striped skunk	*Mephitis mephitis*
Muskrat	*Ondatra zibethica*
Woodchuck	*Marmota monax*
Raccoon	*Procyon lotor*
Eastern mole	*Scalopus aquaticus*
Eastern gray squirrel	*Sciurus carolinensis*
Cottontail rabbit	*Sylvilagus floridana*
Gray fox	*Urocyon cinereargentus*
Red fox	*Vulpes vulpes*
Meadow jumping mouse	*Zapus hudsonius*

SOURCE: EA for the Continuation of Basewide Operations, 1999.

4.6 Threatened and Endangered Species

Five Federal and/or state-listed species have been documented at Ft. A.P. Hill including two species of animals and three plants (Table 4-3). The animal species include bald eagle (*Haliaeetus leucocephalus*) and Bachman's sparrow (*Aimophila aestivalis*). Five active nest sites of bald eagle were documented at the installation in 1996, 1997, and 1998. Current bald eagle management guidelines restrict many activities within a primary zone of 750 feet and a secondary zone of 1,320 feet (1/4 mile). Activities in both the primary and secondary zones are additionally restricted during the critical nesting season (November 15 through July 15). One occurrence of Bachman's sparrow has been documented in the fire-maintained communities in the controlled access area of the installation. This habitat is an oligotrophic woodland area and its identified by widely spaced loblolly pines with interspersed shrub patches, and low growing shade intolerant grasses, legumes, and composites. Frequent and intense fires have delayed succession of shrub and hardwood species and delayed pine canopy closure. The habitat that is occupied by the Bachman's sparrow is one of only three in Virginia that is believed to be capable of supporting a viable, long-term population of the species.

Table 4-3: Federally and State Listed Species

Common Name	Scientific Name	Global	Federal	State
Swamp-pink	*Helonias bullata*	G3	LT	LE/S2S3
Small whorled pogonia	*Isotria medeoloides*	G2G3	LT	LE/S2
American ginseng	*Panax quinquefolius*	--	--	LT/S4
Bachman's sparrow	*Aimophila aestivalis*	G3	--	LT/S1
Bald eagle	*Haliaeetus leucocephalus*	G4	LT	LT/S2

Global Rank = G2 refers to 6-20 occurrences globally, G3 refers to 21-100 occurrences globally, G4 species are apparently secure globally; and G5 species are very common throughout the range.
Federal Rank = LT refers to Federal Listing as Threatened.
State Rank = LE refers to State Listing as Endangered; LT refers to State Listing as Threatened, S1 refers to extremely rare and critical imperiled in state (5 or less), S2 refers to very rare and imperiled in state (6-20), S3 refers to rare to uncommon to Virginia (21-50).

SOURCE: EA for the Continuation of Basewide Operations, 1999

The protected plants include: swamp pink (*Helonias bullata*), which is a wetland species, and two occurrences of small-whorled pogonia (*Isotria medeoloides*), which occurs in mixed deciduous or mixed deciduous / coniferous upland forest sites, and one occurrence of American ginseng (*Panax quinquefolia*), which occurs on steep, sheltered ravines.

In addition to these five species, the state has documented 30 other species on the installation that are currently considered rare and of state concern. These species include sixteen plants, eleven insects, two amphibians, and one amphipod (EA for the Continuation of Basewide Operations, 1999).

4.8 Prime and Unique Farmlands

The United States Department of Agriculture (USDA) National Resource Conservation Service has verified that no areas of prime and unique farmland are located in the vicinity of Ft. A.P. Hill.

4.9 Wild and Scenic Rivers

The National Park Service has verified that no waterways on or adjacent to Fort A. P. Hill are protected under the Wild and Scenic Rivers program.

4.10 Cultural Resources

4.10.1 Previous Investigations

Three previous cultural resource studies have identified numerous cultural resources at Ft. A.P. Hill. In 1979 Southsides Historical Sites, Inc. completed a comprehensive survey of A.P. Hill. Subsequent project specific surveys have been by MAAR Associates and Gray & Pape. Presently there are no properties listed in the National Register of Historic Places (NRHP) at Ft. A.P. Hill. There are several architectural resources and numerous archeological sites that are considered potentially eligible for listing in the NRHP at Ft. A.P. Hill

4.10.2 Archeological Resources

Approximately 9,000 acres, or 12 percent, of Ft. A.P. Hill's lands have been formally surveyed. The survey work that has been done has been concentrated in areas that were identified as having a high potential to contain archeological resources. The archeological surveys have identified a total of 66 sites that are recommended for additional evaluation and are considered eligible for the National Register. The identified sites consist of prehistoric, historic, and mixed prehistoric and historic components. The sites are located in training areas across the extent of the installation. Unsurveyed areas consist of locations that have high, medium, and low probability for archeological sites.

4.10.3 Architectural Resources

Ft. A.P. Hill was established as part of the U.S. Army's World War II mobilization effort. The majority of the buildings constructed during this period are temporary mobilization buildings that are not considered eligible for listing in the NRHP. Historic American Building Survey recordation of 700 and 800 series mobilization buildings has been completed.

In addition to the World War II construction, a number of buildings and training ranges were constructed in the early 1950's in support of the mobilization and training for the Korean War. These resources are not yet fifty years old and have not been evaluated for National Register eligibility.

The Travis Lake Lodge and Liberty Church are historic districts that are eligible for listing in the NRHP.

4.11 Hazardous, Toxic, and Radioactive Substances (HTRS)

4.11.1 Underground Storage Tanks (USTs) and Above-Ground Storage Tanks (ASTs)

No petroleum products are stored in the vicinity of the proposed action. No storage tanks currently exist in the area, and no spills have ever been documented in the vicinity of the proposed action.

4.11.2 Polychlorinated Biphenyls (PCBs)

Based on available information there are no PCB contamination sources associated with the proposed action.

4.11.3 Radon

Based on available information there are no radon sources associated with the proposed action**.**

4.11.4 Asbestos Containing Materials (ACM)

A post-wide survey has been conducted at Ft. A.P. Hill to determine the extent of asbestos contamination. Ft. A.P. Hill complies with all Federal and Army asbestos standards. If human exposure to ACM is discovered or is determined to be likely as a result of this action, the ACM is managed pursuant to the National Emissions Standards for Hazardous Air Pollutants.

4.11.5 Lead-Based Paints (LBP)

No post-wide survey has been conducted at Ft. A.P. Hill to determine the presence of LBP. Lead abatement is carried out by DPW on a case-by-case basis in accordance with the guidelines set forth by Occupational Safety Health Administration (OSHA) and DPW.

4.11.6 Pesticides, Herbicides, and Fertilizers

(*Information to be provided*).

4.11.7 Storage of Hazardous Materials

(*Information to be provided*).

4.11.8 Contaminated Areas

Approximately thirty potentially contaminated sites have been identified throughout the installation, and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) preliminary assessments and site inspections (PA/SIs) have been conducted at the sites. The PA/SIs revealed that contamination at these sites resulted from UST leaks, unexploded ordnance (UXO) at test ranges and impact areas, and pesticide/herbicide spills. Except for the UXO contamination, clean up actions have been completed for those sites requiring remediation. UXO-contaminated areas are clearly identified, secured, and off-limits to unauthorized personnel. Since these sites are still active test ranges and impact areas, clean up at the present time would not be prudent (EA for the Continuation of Basewide Operations, 1999; Draft EA Dames and Moore, 1999).

4.12 Infrastructure

Unless otherwise noted, information under this subsection 4.12 was obtained from the MDW Final Consolidated Utility Privatization Request for Proposal (RFP) 1999.

4.12.1 Electric Utility Distribution System Description and Requirements

4.12.1.1 Current Service Arrangements

Ft. A.P. Hill, VA currently purchases electricity at twenty-seven (27) delivery points from Rappahannock Electric Cooperative (REC). As a distribution only utility, REC is a member of and purchases its energy requirements from Old Dominion Electric Cooperative (ODEC). ODEC is a generation and transmission (G&T) utility. Eight of the delivery points contain demand meters, while the remaining nineteen (19) contain energy only meters. Each delivery point is supplied at 7.2 kV/12.5 kV primary voltage. The main delivery point is located adjacent to the REC-owned Ft. A.P. Hill substation. The public-use Ft. A.P. Hill substation is fed by two (2) 69 kV transmission lines and contains two (2) 69 kV/12.5 kV power transformers and three (3) 12.5 kV feeder circuit leave the substation. This delivery point accounts for approximately 84% of the Installation's annual energy requirement. The Ft. A.P. Hill electric distribution system contains approximately 520,500 linear feet (99 miles) of overhead and underground conductor and serves approximately 630 service locations. The estimated Installation annual power requirement for FY 1997 was 11,783 MWh. The proposed action would not include the procurement of electricity and would not, therefore, affect the current electricity contract with REC.

4.12.1.2 Electrical Distribution System.

The main cantonment area of Ft. A.P. Hill is supplied from a dedicated 12.5 kV overhead feeder from the Ft. A.P. Hill substation. The majority of the remaining areas of the Installation are served from simple radial circuits. The majority, 87 circuit miles of the Installation's circuits are overhead with pole-mounted transformers. The remaining 12 circuit miles have pad-mounted transformers. There are approximately 800 street light fixtures (of various types) and approximately 400 street light poles. There is an estimated 456 transformers within the Ft. A.P. Hill installation. Approximately 197 of these transformers are owned and maintained by REC as "excess facilities." REC Rate Schedule EF is used when customers request service that is in addition or in excess of the utilities normal method of service. A number of areas of the electric distribution system may require replacements, improvements or upgrades to conform to commonly accepted industry standards and practices such as the National Electric Safety Code (NESC).

4.12.1.3 Electrical System Requirements.

Implementation of the proposed action would make the non-Federal entity responsible to manage the operation, maintenance, repairs, expansion, replacement, extension and/or removal of all or portions of the electrical distribution system to ensure adequate and dependable electric service is distributed to each Government or tenant connection within the installation premises. The non-Federal entity would assume ownership at the twenty-seven (27) REC delivery points which separate ownership from REC's upstream power transmission, distribution, and delivery system and the Government-owned downstream electric distribution system.

4.12.1.4 Transmission Voltage / Demarcation Requirements.

Transmission voltage shall be distributed throughout the Installation for transformation to a primary voltage of 7.2 kV/12.5 kV. The non-Federal entity would be responsible for ensuring proper distribution of primary voltage for final transformation to typical operating voltages of 120, 208, 240 V single- and three-phase at 60 Hz for each building or facility served. The Government would retain the responsibility at the service entrance (weatherhead typically) for all aerial services and up to and including the main breaker (disconnect or panel), within a building on the secondary side.

4.12.2 Traffic and Transportation

Highway access to Ft. A.P. Hill is available regionally with Interstate 95, U.S. Routes 1, 17, and 301, and State Route 2. U.S. Route 301 provides access to the main entrance of the installation and is a four-lane, north-south route that bisects Ft. A.P. Hill. U.S. Route 17 borders the northern perimeter of the installation and provides access to the Cooke, Rappahannock and Pender Campsites. State Route 2 borders the western perimeter of the installation and provides access into the Post at Widewake and Villeboro. From Interstate 95, access to Bowling Green is provided by State Route 207 that connects with U.S. 301.

The primary transportation network within Ft. A.P. Hill consists of roads and streets that act as main distribution arteries that provide access to all the functional areas. These primary roads are approximately 18 to 30 feet wide and well maintained. Secondary and tertiary light duty roads include all installation roads and streets that provide access between and within the various

functional areas. Wide, clear trails are located along some roads and exist for the use of tanks and tracked vehicles (EA for the Continuation of Basewide Operations, 1999).

4.13 Socioeconomic Conditions

4.13.1 Demographics

The entire 76,000-acre Fort A.P. Hill installation is located entirely within Caroline County, Virginia. Caroline County is located in northeastern Virginia. The County is rural in character and has extensive parks and recreational opportunities. The installation is located along the growing Interstate 95 Corridor midway between Richmond, Virginia and Washington DC. The town of Bowling Green is the County Seat for Caroline County, and is the closest community to the main entrance of the installation. Based on recent estimates, the 549 square mile county had a 1999 estimated population of 22,075 persons, an increase from 21,989 persons in 1998. The County has four elementary schools, one middle school and one high school.

Located north and west of the installation are some of the fastest growing communities in the State of Virginia and United States. This area is known as the Rappahonnock Region. The City of Fredericksburg, located north of the installation, grew from a 1990 population of 19,027 to 21,000 persons in 1995. The counties of Spotsylvania, Stafford, and King George's County, which border Fredericksburg, have grown dramatically in the period from 1990 to 1995. This growth is attributable to the urban spread from the Washington, D.C. and Richmond, Virginia metropolitan areas into the Region. The population in Spotsylvania went from 57,403 persons in 1990 to 71,400 persons in 1995. Stafford County grew from a 1990 population of 20,766 to 79,400 in 1995. (Source: Fort A.P. Hill Web Page, 2000)

4.13.2 Economics

Fort A.P. Hill is designated for selected administrative functions as a sub installation of Fort Belvoir and part of the Military District of Washington. Fort A.P. Hill is considered one of the nation's premier all-purpose, year round military training installations. The installation is large in terms of land area and is the sixth largest installation within the United States. The Fort is composed of 75,994 acres of federal property, along with 111 acres of leased property. Approximately 185 permanent civilian employees and 45 active duty military personnel are assigned to the installation. During peak training periods, temporary seasonal employees add an additional 100 employees to the installation. Though the installation is small in terms of permanent manpower, the base does represent a significant economic force within the region.

In 1996, the median household income in the surrounding Caroline County was $33,325. The number of employees within the County totaled 2,667, with a total payroll of $52,832,000 in 1997. The largest sector of employees were retail related at 30%, manufacturing jobs constituted 21% of the total, service jobs at 20%, and transportation -utility jobs represented 9% respectively. Approximately 14.6 percent of Caroline County's population was considered to be below the poverty level in 1993. Of the Counties adult population, over twenty five,

approximately 58.8% have completed high school, with 8.3% of the same population having attained a college degree.

4.13.3 Schools, Libraries, and Recreation Facilities

The United States Army Garrison (USAG) Headquarters (HQ) area has a lighted softball field, tennis court and multi-purpose court area providing for basketball and tennis, and a combined community club for the military community and dependents. A picnic area is located north of the USAG HQ area. Additional softball fields and multi-purpose courts and picnic pavilions are located throughout the installation. A recreational vehicle (R/V) trailer park is located adjacent to Archer Camp, (i.e., the Archer R/V site). This facility underwent a utilities upgrade in 1991. The Ft. A.P. Hill Mobilization Master Plan cited a shortage in recreational facilities at the campsites. No additional facilities are planned at this time. Ft. A.P. Hill affords hunting, fishing, and camping activities (EA for the Continuation of Basewide Operations, 1999).

4.13.4 Public Health and Safety

The closest emergency facilities are located in Caroline County. The closest fire company and rescue squad to Ft. A.P. Hill is located in Bowling Green, within two miles of the main entrance to Ft. A.P. Hill. Caroline County is served by six volunteer fire companies, three volunteer rescue squads, and the sheriff's department. The Caroline County Volunteer Emergency Units Organization is the governing body or lead group of all fire and rescue units in the county. All requests for fire and rescue equipment are handled by the Fort A.P. Hill Fire Department and Clinic. Emergency medical treatment is available at the Medical College of Virginia, a level one trauma unit located in Richmond, and the Mary Washington Hospital located in Fredericksburg, approximately 20 miles away.

The Sheriff's Department located in Bowling Green, with assistance and support from state police units, provides police protection in Caroline County. The Sheriff's Department also operates a communications center, responsible for receiving primary warning messages from the Virginia Department of Emergency Services.

4.13.5 Noise

The project area is primarily undeveloped woodland and sparsely populated rural area (except during military training exercises). Military training exercises include aviation training, weapons firing, demolition operations (open detonation), and field firing. The nearest communities to the installation are the town of Bowling Green, which is located approximately 2 miles southwest on Route 301, and the town of Port Royal, which is located approximately 10 miles to the northeast on Route 301.

Noise levels at the installation has been the subject of several studies conducted at Ft. A.P. Hill. The Center for Health Promotion and Preventive Medicine (formerly Army Environmental Hygiene Agency) conducted studies in 1984, 1985, 1986, 1992, and 1998, to evaluate noise produced from ongoing activities. Three different noise zones were created to classify noise production, which include Zone I – acceptable; Zone II – normally unacceptable; and Zone III – unacceptable. In the vicinity of Ft. A.P. Hill, the Zone II noise levels were determined to be all on Post. According to the results of a noise survey done in 1991 and 1998, the noise levels from

demolitions, detonations, and helicopter gunnery are high enough to generate noise complaints. Currently, an updated noise management plan is in draft form (EA for the Continuation of Basewide Operations, 1999).

4.13.6 Visual and Aesthetic Values

The visual landscape in the area surrounding Ft. A.P. Hill is comprised primarily of mature woodlands, small farms, and scattered residential areas, and can be classified as rural. Ft. A.P. Hill land area is predominantly managed woodlands with approximately 12% remaining as open land, including roads, trails, firebreaks, and firing ranges, which is consistent with the rural setting surrounding the installation. The current mission at Ft. A.P. Hill contributes to maintaining the rural setting in the surrounding area (EA for the Continuation of Basewide Operations, 1999).

4.14 Environmental Justice

Executive Order 12898 requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

For this reason, Table 4-4 presents demographic information on race, ethnicity, and poverty status in the areas surrounding Ft. A.P. Hill, as a baseline on which any such effects can be identified and analyzed.

Race refers to census respondents' self-identification of racial background. Hispanic origin refers to ethnicity and language, not race, and may include persons whose heritage is Puerto Rican, Cuban, Mexican, and Central or South American. As defined by the "Draft Guidance For Addressing Environmental Justice Under NEPA" (CEQ, 1996), "minority" includes persons who identify themselves as Asian or Pacific Islander, Native American or Alaskan Native, black (not of Hispanic origin), or Hispanic. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. Low-income populations are identified using the Census Bureau's statistical poverty threshold, which is based on income and family size. The Census Bureau defines a "poverty area" as a census tract with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level.

Minority and low-income families are distributed nearly evenly throughout Caroline County. According to the 1990 Census, in the area surrounding Ft. A.P. Hill (ZIP code zone 22427), 40 percent of the population is non-white, 9 percent of the population is below the poverty level, and 12 percent of households are receiving public assistance (Table 4-4).

Table 4-4: Census Figures for Ft. A.P. Hill and Surrounding Area, By Zip Code

ZIP Code	22427	
PERSONS	519	(100%)
White	310	
Non-White	209	
Above Poverty Level	472	
Below Poverty Level	47	
HOUSEHOLDS	132	(100%)
Receiving Public Assistance	15	
Not Receiving Public Assistance	117	
Median Household Income	$27,891	

5.0 ENVIRONMENTAL CONSEQUENCES

The subsections below describe the environmental and socioeconomic effects associated with implementation of the proposed action. The evaluation of effects is based upon the assumption that the non-Federal entity would be responsible for ensuring that all actions or practices involving future construction, maintenance, and upgrades of the utilities would comply with applicable Federal and state and local environmental laws and regulations. The no-action alternative would have no impacts to the resources presented in the subsections below.

The proposed action is envisioned as a two part initiative: part one is the actual contractual transfer of responsibilities from the Federal Government to the non-Federal entity and part two is the ongoing responsibility of the non-Federal entity to operate and maintain the A.P. Hill electric distribution system, and expand this system as future operational needs may require. Operation and maintenance will not modify the existing capacity of the system. Therefore, these activities essentially result in no net change to the current natural and man-made environment. Expansion, however, implies an inherent change in supplied service that is a result of an increase in demand most likely to be expected from future building construction. Expansion of the services currently provided to the installation will result in some impact to the natural and manmade environment. The magnitude of these effects can be estimated by data such as the installation's 5-year Master Plan, which will be made available to all prospective offerors.

Expansion of the existing electric distribution system, if and when it occurs, would be considered a Federal action, and would first require all environmental, cultural and other coordination with the installation and MDW to be performed before initiation of any physical work. The following paragraphs address impacts associated with expected system expansion in a general sense, and do not attempt to identify specific instances.

The following list of resources was evaluated and it was determined that the proposed action would have no impact or appreciable detrimental effect on them:

- Land Use
- Climate
- Aquatic Resources and Wetlands
- Threatened and Endangered Species
- Prime and Unique Farmlands
- Wild and Scenic Rivers
- Telecommunications
- Solid Waste
- Potable Water
- Demographics
- Schools, Libraries and Recreational Facilities
- Environmental Justice

Therefore, impacts to these resources will not be addressed further by this EA.

5.1 Project Area

5.1.1 Geology

No significant adverse effects upon the installation geologic features would be expected as a result of the proposed action. Any utility upgrades, expansion, or replacement work to be performed would not involve significant, deep earthwork disturbance, and therefore would not be expected to significantly affect the rock and soil formation processes of the area.

5.1.2 Soils

No significant adverse effects upon soils would be expected as a result of the proposed action. Future utility upgrades, expansion, or replacements may temporarily effect soils within the existing easement areas. However, these soils were likely disturbed during the construction of the existing utilities, and would be subject to further disturbance in the normal course of repairing or maintaining these existing systems. Concerns regarding the protection of the integrity of surface and topsoil would be addressed during subsequent evaluation of the non-Federal entity's engineering designs. Notes that recommend the non-Federal entity installing underground utilities to sort, stockpile, and replace the top 12 inches of soil would normally be shown on the design plans or included in the special provisions of construction specifications.

5.1.3 Topography and Drainage

The proposed action would not be expected to have an effect on the topography and drainage at Ft. A.P. Hill. Any utility upgrade or replacement may temporarily effect a small area within the existing easements, but these disturbances would be restored to their existing grades when construction is complete. Expansion of the utilities systems outside the existing easements is expected to occur, but would require further environmental evaluation prior to implementation.

5.2 Air Quality

Implementation of the proposed action would transfer the responsibility for utilities operations from the Government to a non-Federal entity and would be expected to have no measurable impact on air quality in the Ft. A.P. Hill area. Currently, Ft. A.P. Hill already receives electric service from and outside vendor, so the transfer of these services would be a paper transaction only. Furthermore, any proposed upgrade, expansion, or replacement would be performed to improve efficiency, provide for safety, or as a repair. No foreseeable changes would be done to any of these systems in response to an increase in demand. Therefore, there would be no significant increase or decrease in air emissions in the project area as a result of the utility privatization.

5.3 Water Quality

Implementation of the proposed action is unlikely to have physical or chemical effects upon water quality resources at Ft. A.P. Hill, as no work within the water itself is likely to occur as a result of the proposed action. Additionally, any utility system upgrades, expansion, repairs, and replacements would be conducted in compliance with Federal and state laws and regulations designed to protect water quality and other resources. The proposed action would not, of itself, increase demand nor result in a change in water quality at the installation.

5.4 Vegetation

Implementation of the proposed action would be expected to have no measurable impact upon the quality or composition of the vegetation at Ft. A.P. Hill. Currently, the installation receives electrical service from outside vendors, so the transfer of this service would be a paper transaction only. Furthermore, any proposed upgrade, repair, or replacement would be performed to improve efficiency, provide for safety, or as a repair. Any upgrade or expansion of service may cause minor, local damage to or removal of vegetation as a result of the groundbreaking necessary for line access. However, the vegetation on Ft. A.P. Hill that is likely to be impacted is primarily grass and ornamental plantings, which can easily be replanted when the access trenches are backfilled. No foreseeable changes would be evident in any of these systems as a response to a regular increase in demand, as the utilities run underground, and would not require any vegetation removal except for maintenance or construction. For these reasons, there would be no significant impact on vegetative habitat within the installation project area as a result of the utility privatization.

5.5 Wildlife Resources

Implementation of the proposed action would be expected to have no measurable impact on wildlife resources in the Ft. A.P. Hill area. Currently, Ft. A.P. Hill receives electrical service from outside vendors, so the transfer of this service would be a paper transaction only. Furthermore, any proposed upgrade or replacement would be performed to improve efficiency, provide for safety, or as a repair. No foreseeable changes would be evident in any of these systems as a response to a regular increase in demand, as the utilities run underground, and would not require any vegetation removal except for maintenance or construction. For these reasons, there would be no significant impact on wildlife or wildlife habitat within the installation project area as a result of the utility privatization.

5.6 Cultural Resources

The proposed action would involve the transfer of ownership and the responsibility to operate and maintain the utility system on Ft. A.P. Hill. The privatization of the utility system would have no physical effects on any aspect of the installation. The only foreseeable effects of the proposed action on these resources are anticipated construction activity by the non-Federal entity to be responsible for upgrading, repairing, expanding, or replacing the existing utility system.

5.6.1 Archeological Resources

Land occupied by the existing utility system has been previously disturbed by the installation of the utility system and has little potential to contain archeological resources. Any action taken outside existing easements may impact archeological resources. Expansion of the utility outside the existing easements could disturb any undiscovered archeological sites that may be located on the installation. There are numerous archeological sites recorded at Fort A.P. Hill, avoidance would be the first strategy to preserve the known sites. If known sites must be impacted, on site monitoring during soil disturbing activities, or a data recovery excavation would be conducted as mitigation.

National Historic Preservation Act (NHPA) Section 106 consultation with the Virginia SHPO has been initiated. A project initiation meeting was held in June 1999 with the SHPO and other

regulatory authorities. A letter formally initiating consultation with the SHPO was sent on July 8, 1999. A follow-up letter transmitting this EA and requesting SHPO concurrence with its findings is being prepared. The results of the consultation will be incorporated into the final version of this document.

5.6.2 Architectural Resources

As described in Section 5.6.1, Section 106 consultation with the Virginia SHPO has been initiated. The results of the consultation will be incorporated into the final version of this document.

5.7 Hazardous, Toxic, and Radioactive Substances (HTRS)

Because the proposed action is expected not to change current operations and maintenance procedures at Ft. A.P. Hill, no new sources of hazardous or toxic materials would be expected to occur from normal operations. Any unusual or accidental action that might result in the release of such materials would not be linked solely to the contractual implementation of the proposed privatization action. Prior to excavation which may be required to expand/repair/replace electrical distribution lines, information regarding the known distribution and status of potentially contaminated sites would need to be reviewed so that these improvements could be safely implemented. Therefore, no impacts would be anticipated from hazardous and toxic materials as a result of the proposed action.

5.8 Infrastructure

5.8.1 Utilities

Prior to contract award, the existing supply and service agreements between the Government and the various utility companies will need to be reviewed by the appropriate Government legal offices to ensure that they contain no clauses that would preclude or unduly hinder transfer of ownership, operation and maintenance of UDC systems under this privatization initiative. Certain existing contracts may need modification, or new contracts may need to be drafted to convey rights and easements to the Federal properties at Fort A.P. Hill. Although the full ramifications of these actions are not fully known, initial contact with representatives at Fort A.P. Hill has indicated that no unresolvable issues are anticipated and that preparation of an easement(s) agreement should not be encumbered by pre-existing conditions.

Under certain circumstances, utility companies may have already obtained easements to construct and maintain infrastructure within the installation boundaries, but these utilities serve specially designated installation tenants or customers at locations outside the installation boundaries. Portions of the UDC systems within these existing easements are not part of this MDW privatization initiative.

REC currently supplies electrical power to Ft. A.P. Hill. Implementing the proposed action would result in the successful non-Federal entity taking over the responsibility for the

distribution system within the Ft. A.P. Hill installation. This is a transfer of ownership of the distribution system only, and would not affect the procurement or delivery of the electric power commodity. Therefore, no interruption in service would be anticipated because of this action. Subsequent improvements to the electric distribution system may require brief power interruption as new cables are brought on-line. These disruptions would most likely be pre-arranged, should they be necessary, thus reducing their impact. Once upgrades are performed, the likelihood of power interruption should be reduced from present levels, due to the improved quality of the distribution system. Therefore, no significant impact would be expected to the electric distribution system.

5.8.2 Traffic and Transportation

Minor increases in traffic volume would be expected as a result of implementing the proposed action. Traffic volume, however, would be anticipated to involve few vehicles (those of construction crewmembers, those of the utility non-Federal entity's engineers) would be temporary. No increase in traffic would be anticipated as a result of the proposed action. Therefore, no significant traffic impact would be anticipated as a result of the proposed project.

5.9 Socioeconomic Conditions

5.9.1 Economics

Implementation of the proposed privatization action would have a very minor impact on the local economy surrounding the installation. It is planned that the successful non-Federal entity would become the owner of the utility distribution system on the installation. As owner, the non-Federal entity would be fiscally responsible for the maintenance and operation of the utility systems.

It is anticipated that the Federal Government would experience a favorable long term economic benefit derived from privatizing the utilities at the installation in the form of lower aggregate costs per unit for the energy consumed. This benefit would arise through elimination of operation and maintenance (O&M), and administrative and general costs associated with operation of the utilities, and capital expenditures required for improvements. The cost of O&M and capital improvements would be assumed by the service provider and would be included as part of the per-unit cost of the energy.

5.9.2 Public Health and Safety

Implementation of the proposed action would not have significant effect upon the public health and safety. Currently, Ft. A.P. Hill receives electrical service from an outside vendor. The transfer of this service would be a paper transaction only. Any utility upgrade or replacement may temporarily effect a small area within the existing easements, but these disturbances would be restored to their existing grades when construction is complete. It is expected that all future construction activities would be performed following OSHA guidelines, which mandate acceptable health and safety standards.

5.9.3 Noise

Implementation of the proposed action would not have a significant effect upon existing noise levels. Currently, Ft. A.P. Hill receives electrical service from an outside vendor. The transfer of

this service would be a paper transaction only. Any utility upgrade or replacement might temporarily effect a small area within the existing easements and would be performed to improve efficiency, provide for safety, or as a repair. No foreseeable changes would be expected solely as a result of the proposed action to any of these systems as a response to an increase in demand. It is expected that noise levels associated with this construction would be temporary.

5.9.4 Visual and Aesthetic Values

The proposed privatization is a transfer of ownership only. Any physical construction occurring within the easements to be granted for the proposed action is covered by this EA. Any potential work outside the easements to be granted would have to be approved, and would be subject to additional environmental, regulatory, or installation ordinances. It is expected that only minimal, temporary effects on Ft. A.P. Hill's visual or aesthetic values would result from the proposed action. Once any construction is complete, the visual and aesthetic values would be restored to their previous condition, as coordinated with the Government.

5.10 Cumulative Impacts

5.10.1 Impacts on the Natural Environment

The proposed action would result in the transfer of ownership of the electrical distribution system to the successful non-Federal entity. It would also transfer responsibility to this entity to repair, upgrade or replace the existing utility infrastructure within an expected period of 3 to 5 years so as to be able to operate and maintain this system to necessary, prescribed industry standards. Foreseeable effects of the proposed action on these resources would be considered secondary, specifically the effects of temporary construction activities associated with the upgrade, repair, expansion, or replacement of all or parts of the utility distribution system.

Potential future utility infrastructure improvements, including expansion or upgrade of the utility distribution system, would most likely have minimal impact on air, land, and water resources. These effects would not be expected to be large, "either singly" or cumulatively. Additionally, deed restrictions that would be applied to all easements granted for existing utility lines would be expected to reduce foreseeable impacts to (1) water supply and quality, (2) aquatic resources, and (3) cultural resources at Ft. A.P. Hill. This reduction of impacts would be expected to reduce the overall cumulative impact to within reasonable limits.

5.10.2 Impacts on the Human Environment

The privatization of the electrical distribution system may, in the worst-case scenario, result in the loss of up to five (5) full-time-equivalent (FTE) personnel from Ft. A.P. Hill's payroll. Ft. A.P. Hill's DPW currently is responsible for the operation and maintenance of its electrical distribution system. FTEs primarily assigned to support Ft. A.P. Hill operations may be expected to either be reassigned within the DPW workforce or be counseled as to where to apply for comparable employment, should no positions be available within the Ft. A.P. Hill organization. It would be expected that the non-Federal entity would seek to employ those qualified individuals possessing knowledge of these systems and that any displaced individuals would have a first chance at obtaining comparable employment with no break in pay or benefits. In less than ideal conditions, some individuals would not be able to find suitable employment

within the severance period. This situation, however, would not be permanent, and the cumulative economic impacts of temporary unemployment would not likely be significant.

6.0 CONCLUSIONS AND FINDINGS

This EA addressed the privatization of the electric utility distribution system on the Fort A.P. Hill installation. The proposed action and the no-action alternative have been reviewed in accordance with NEPA, as implemented by the regulations of the CEQ and AR 200-2. Baseline environmental and socio-economic conditions at Fort A.P. Hill and the surrounding areas have been described and the environmental and socio-economic consequences of implementing the proposed actions have been evaluated. A table summarizing the effects of the proposed action and the no-action alternative on environmental resources, as documented in detail in Section 5.0, is provided below.

Table 6-1. Summary of Effects of Proposed Actions and Alternatives

Resource	Proposed Action	No-Action Alternative
Land Use	No Impact.	No Impact.
Geology	No Impact.	No Impact.
Soils	No Impact.	No Impact.
Topography and Drainage	No Impact.	No Impact.
Climate	No Impact.	No Impact.
Air Quality	No Impact.	No Impact.
Water Quality	No Impact.	No Impact.
Aquatic Resources and Wetlands	No Impact.	No Impact.
Vegetation	No Impact.	No Impact.
Wildlife Resources	No Impact.	No Impact.
Threatened and Endangered Species	No Impact.	No Impact.
Prime and Unique Farmlands	No Impact.	No Impact.
Wild and Scenic Rivers	No Impact.	No Impact.
Cultural Resources	No Impact.	No Impact.
Hazardous, Toxic and Radioactive Substances	No Impact.	No Impact.
Infrastructure	No Impact.	No Impact.
Solid Waste	No Impact.	No Impact.
Transportation	Temporary, minor impacts.	No Impact.
Economics	Minor impacts.	No Impact.
Public Health and Safety	No Impact.	No Impact.
Noise	No Impact.	No Impact.
Environmental Justice	No Impact.	No Impact.

Department of Defense (DoD) has directed and Department of the Army (DA) has issued implementing guidance to major commands and subordinate installations to pursue privatization of UDC systems as a prudent means to transfer the responsibility of ownership, and operation and maintenance of these systems to the non-Federal sector. Privatization of UDC systems is envisioned as the means for the military services to obtain more efficient delivery of utility services and to be able to standardize maintenance and operation of these systems as commonly

applicable and prescribed in the non-Federal sector. Fort A.P. Hill's electric distribution system infrastructure is in need of repair, upgrade and/or replacement. Through privatization of its UDC systems, the Government would be able to effect these infrastructure improvements as timely as possible. For these reasons, the Government is pursuing privatization of its A.P. Hill electric distribution system at this time.

Selection of the no-action alternative, or not privatizing the A.P. Hill electric distribution system, would not satisfy the need to provide capital improvements to the entire existing system or those portions of the system in poor condition, nor would it comply with DoD directives and DA policy to privatize UDC systems to the maximum extent. Therefore, the no-action alternative is not preferred.

Impacts to natural resources from implementing the proposed action would be expected to be minor, and be primarily associated with system infrastructure repair or replacement. Short-term impacts consisting of dust and emissions, soil disturbance, equipment noise and damage to vegetation can be expected within the utility line easements from the use of construction equipment. Implementing the proposed action would be expected to shorten the overall duration of construction activities that would have had to have been performed by the Government to keep the electric distribution system in satisfactory operation. As such, no long-term impact and, collectively, no significant impact on natural resources is anticipated.

Impacts to cultural resources from implementing the proposed action are likely to be minor, and temporary. No impacts are expected to historic structures, as no infrastructure work would be performed within any building footprint. Ground disturbance, even within existing utility easements, has the potential for uncovering archaeological or historically significant artifacts. The non-Federal owner would be required to comply with all installation guidelines and procedures for managing and protecting cultural resources prior to initiating any excavation or other disturbance of ground. As such, no significant impacts are expected to the architectural, visual and aesthetic features within the boundaries of the installation.

Impacts to socio-economic conditions from implementing the proposed action would be expected to be minor, and associated with the potential loss of operations and maintenance personnel positions and minor impact of infrastructure construction expenditures. Privatization of the electric distribution system may result in the loss of up to five (5) FTE personnel from the DPW workforce. These individuals would be provided with job placement services available. Under ideal conditions, each individual would be able to find comparable employment with no break in pay or benefits. In less than ideal conditions, some individuals would not be able to find suitable employment within the severance period. This situation, however, is not permanent, and the cumulative economic impacts of temporary unemployment are not likely to be significant. Short-term increases in construction expenditures associated with infrastructure improvements on Fort A.P. Hill are not expected to represent a significant change in the local economy, considering the level of construction activity present and anticipated in the surrounding area.

The implementation of the proposed action consists of transfer of ownership of the A.P. Hill electric distribution system, and transfer of responsibility to operate and maintain this system,

from the Federal Government to a non-Federal entity. Implementing the proposed action to privatize this utility system would not significantly alter baseline environmental or socio-economic conditions. Because the proposed action would not have a significant effect on the quality of the human environment, no environmental impact statement will be prepared, and a Finding of No Significant Impact will be published in accordance with 40 Code of Federal Regulations 1500 and Army Regulation 200-2.

7.0 REFERENCES

Fort A.P. Hill. 1999. *Environmental Assessment of the Continuing Operations at the U.S. Army Garrison Fort A.P. Hill.* Final Report. Prepared by Fort A.P. Hill.

Fort A.P. Hill. 1999. *Draft Environmental Assessment for the Continuation of Basewide Operations.* Prepared by Dames and Moore.

U.S. Army Military District of Washington. 1999. *Final Consolidated Utility Privatization Request for Proposal (RFP) for the Privatization of the National Capital Region Utility Distribution Systems.* Contracting Agent – U.S. Army Corps of Engineers, Baltimore District.

List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Materials
AR	Army Regulation
AST	Aboveground Storage Tank
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CO	Carbon Monoxide
DA	Department of the Army
DAPC	Department of Air Pollution and Control
DoD	Department of Defense
DPW	Directorate of Public Works
DRID	Defense Reform Initiatives Directive
EA	Environmental Assessment
FAR	Federal Acquisition Regulation
FNSI	Finding of No Significant Impact
FTE	Full Time Equivalent
USFWS	Department of the Interior, Fish and Wildlife Service
FY	Fiscal Year
G&T	Generation and Transmission
GPM	Gallons Per Minute
HQ	Headquarters
HTRS	Hazardous, Toxic and Radioactive Substances
LBP	Lead Based Paint
MDW	Military District of Washington
MSL	Mean Sea Level
NCR	National Capital Region
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NHP	National Heritage Program
NO_x	Nitrogen Oxides
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O_3	Ozone
ODEC	Old Dominion Electric Cooperative
OSHA	Occupational Safety Health Administration
PA	Programmatic Agreement
PA/Si	Preliminary Assessment and Site Inspection
Pb	Lead
PCB	Polychlorinated Biphenyl
PM_{10}	Particulate Matter
POC	Point of Contact
R/V	Recreational Vehicle
RCRA	Resource Conservation and Recovery Act
REC	Rappahannock Electrical Cooperative

RF&P	Richmond, Fredericksburg and Potomac
SCS	Soil Conservation Service
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
UDC	Utility, Distribution and Collection
USAG	United States Army Garrison
USC	United States Code
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance